IN THE CLAIMS

Please amend the claims to be in the form as follows:

1. (previously presented) An apparatus for maintaining a stable RF level in an optical link, said apparatus comprising:

a transmitter section;

a receiver section;

a plurality of feedback loops operationally connected to said transmitter section; and

a plurality of feedback loops operationally connected to said receiver section; and

wherein the transmitter section includes a laser producing an optical signal, the laser having a back facet communicating with the optical signal, the laser including a back facet monitor circuit providing a back facet feedback signal depending on the optical signal, the transmitter feedback loops include an RF level derived from a back facet feedback signal.

2. (previously presented) The apparatus of claim 1, wherein the feedback loops perform at least one function selected from the group consisting of:

i. RF level stabilization effects;

ii. preserve or change optical modulation index (OMI);

iii. adjust output power;

iv. compensate for temperature changes;

v. compensate for laser or system tracking errors;

vi. provide gain at proper places in circuitry; and

vii. provide RF input changes.

3. (previously presented) The apparatus of claim 1, wherein the feedback loops operationally connected to said transmitter section include a first, second, and third transmitter section feedback loops.

4. (previously presented) The apparatus of claim 1, wherein the feedback loops operationally connected to said receiver section include a first and second receiver section feedback loops.

5. (previously presented) The apparatus of claim 3, wherein the first transmitter feedback loop is a constant power feedback loop.

6. (previously presented) The apparatus of claim 3, wherein the second transmitter feedback loop is a bias current feedback loop connected between the transmitter section and an attenuation circuit in an RF path.

7. (previously presented) The apparatus of claim 6, wherein the attenuation circuit is a PIN transistor circuit.

8. (previously presented) The apparatus of claim 3, wherein the second transmitter feedback loop is a bias current feedback loop.

9. (previously presented) The apparatus of claim 3, wherein the third transmitter feedback loop provides an RF level from a back facet monitor.

10. (previously presented) The apparatus of claim 9, further including an oscillator operationally connected to said third transmitter feedback loop.

11. (previously presented) The apparatus of claim 10, wherein said oscillator is characterized by an operational frequency of about 100 kHz.

12. (previously presented) The apparatus of claim 10, wherein said oscillator has an output signal, said output signal coupled to an input of an RF detector, said RF detector having an attenuating output proportional to said input, and said attenuating output coupled to an attenuation circuit in an RF path.

13. (previously presented) The apparatus of claim 4, wherein the first receiver feedback loop is an optical modulation voltage (OMV) feedback loop, said optical modulation voltage feedback loop connected to RF circuitry in said receiver section.

14. (previously presented) The apparatus of claim 4, wherein the second receiver feedback loop is an oscillator signal feedback loop, said oscillator feedback loop connected to RF circuitry in said receiver section.

15. (previously presented) The apparatus of claim 14, wherein said oscillator feedback loop responds to an oscillator tuned to a frequency of about 100 kHz.

16. (previously presented) The apparatus of claim 14, wherein said oscillator feedback loop includes a device to demodulate said oscillator feedback.

17. (previously presented) A method of stabilizing an RF level in an optical link, said method comprising:

providing an optical signal transmitter section;

providing an optical signal receiver section;

providing a plurality of feedback loops to said optical signal transmitter section;

providing a plurality of feedback loops to said optical signal receiver section; and

wherein the transmitter section includes a laser producing an optical signal, the laser having a back facet communicating with the optical signal, the laser including a back facet monitor circuit providing a back facet feedback signal depending on the optical signal, the transmitter feedback loops include an RF level derived from a back facet feedback signal.

18. (previously presented) The method of claim 17, wherein the feedback loops perform at least one function selected from the group consisting of:

i. RF level stabilization effects;

ii. preserve or change optical modulation index (OMI);

iii. adjust output power;

iv. compensate for temperature changes;

v. compensate for laser or system tracking errors;

vi. provide gain at proper places in circuitry; and

vii. provide RF input changes.

19. (previously presented) The method of claim 17, wherein the feedback loops operationally connected to said transmitter section include a first, second, and third transmitter feedback loops.

20. (previously presented) The method of claim 17, wherein the feedback loops operationally connected to said receiver section include a first and second receiver feedback loops.

21. (previously presented) The method of claim 19, wherein the first transmitter feedback loop is a constant power feedback loop.

22. (previously presented) The method of claim 19 wherein the second transmitter feedback loop is a bias current feedback loop connected between the transmitter section and an attenuation circuit in an RF path.

23. (previously presented) The method of claim 22, wherein the attenuation circuit is a PIN transistor circuit.

24. (previously presented) The method of claim 19 wherein the second transmitter feedback loop is a bias current feedback loop.

25. (previously presented) The method of claim 19 wherein the third transmitter feedback loop provides an RF level from a back facet monitor.

26. (previously presented) The method of claim 25, further including an oscillator operationally connected to said third transmitter feedback loop.

27. (previously presented) The method of claim 26, wherein said oscillator is characterized by an operational frequency of about 100 kHz.

28. (previously presented) The method of claim 26, wherein said oscillator has an output signal, said output signal coupled to an input of an RF detector, said RF detector having an attenuating output proportional to said input, and said attenuating output coupled to an attenuation circuit in an RF path.

29. (previously presented) The method of claim 20, wherein the first receiver feedback loop is an optical modulation voltage (OMV) feedback loop, said optical modulation voltage feedback loop connected to RF circuitry in said receiver section.

30. (previously presented) The method of claim 20, wherein the second receiver feedback loop is an oscillator signal feedback loop, said oscillator feedback loop connected to RF circuitry in said receiver section.

31. (previously presented) The method of claim previously presented, wherein said oscillator feedback loop includes an oscillator tuned to a frequency of about 100 kHz.

32. (previously presented) The method of claim 30, wherein said oscillator feedback loop includes a device to modulate said oscillator feedback.

33. (previously presented) An optical transmission system comprising:

an optical signal transmitter section;

an optical signal receiver section;

an RF stabilization system operationally connected to said optical signal transmitter section; and

an RF stabilization system operationally connected to said optical signal receiver section; and

wherein the transmitter section includes a laser producing an optical signal, the laser having a back facet communicating with the optical signal, the laser including a back facet monitor circuit providing a back facet feedback signal depending on the optical signal, the transmitter feedback loops include an RF level derived from a back facet feedback signal.

34. (previously presented) The optical transmission system of claim 33, wherein the optical transmission system is a cable television (CATV) system.

35. (previously presented) An optical transmitter comprising:

a RF modulated laser that converts an RF electronic signal into an RF modulated optical signal, the laser including a back facet communicating with the RF modulated optical signal;

an attenuation circuit to regulate the level of the RF electronic signal provided to the laser;

a back facet circuit providing an back facet feedback signal from the back facet depending on the RF modulated optical signal;

a bias circuit to control the laser bias depending on the back facet feedback signal; and

a first feedback attenuation circuit to control the attenuation circuit depending on the back facet feedback signal.

36. (previously presented) The optical transmitter of claim 35 further comprising:

an oscillator for providing an oscillator signal at an oscillator frequency;

a combiner for adding the oscillator signal into the RF electronic signal provided to the laser so that the optical signal is modulated with the oscillator signal and the back facet feedback signal includes a feedback oscillator signal depending on the optical signal;

a filter circuit to provide a feedback oscillator signal at the oscillator frequency from the back facet feedback signal;

a RF detector for detecting the level of the feedback oscillator signal; and

a second feedback attenuation circuit to further control the attenuation circuit depending on the detected level of the feedback oscillator signal.

37. (previously presented) The optical transmitter of claim 36 further comprising:

a modulator to modulate the oscillator signal.

38. (currently amended) An optical receiver comprising:

a photo diode circuit including a photo diode that converts an RF modulated optical signal to a RF electronic signal, the photo diode having an optical modulation voltage,

an optical modulation voltage circuit to control the optical modulation voltage and provide a first attenuation feedback signal depending on the optical modulation voltage;

an attenuation circuit to provide an attenuated RF signal based on the RF electronic signal; ~~and~~

a feedback attenuation circuit to control the attenuation of the attenuation circuit depending on the first attenuation feedback signal depending on the optical modulation voltage; and

a filter circuit to provide a feedback oscillator signal at an oscillator frequency from the photo diode circuit depending on an oscillator signal in the optical signal;

an RF detector circuit for detecting the level of the feedback oscillator signal;

a second feedback attenuation circuit to further control the attenuation circuit depending on the detected level of the feedback oscillator signal.

39. (cancelled)

40. (previously presented) The optical receiver of claim 38 further comprising a demodulator to demodulate the feedback oscillator signal.

41. (previously presented) An optical transmission system comprising:

a RF modulated laser that converts an RF electronic signal into an RF modulated optical signal, the laser having a back facet communicating with the optical signal;

an attenuation circuit to regulate the level of the RF electronic signal provided to the laser;

a back facet circuit providing an back facet feedback signal from the back facet depending on the RF modulated optical signal;

a bias circuit to control the laser bias depending on the back facet feedback signal;

a first feedback attenuation circuit to control the attenuation circuit depending on the back facet feedback signal;

an optical cable communicating with the RF modulated laser for transmitting the RF modulated optical signal; and

an optical receiver for receiving the RF modulated optical signal transmitted by the optical cable.

42. (previously presented) An optical transmission system comprising:

an optical transmitter for providing RF modulated optical signal;

an optical cable for transmitting the RF modulated optical signal from the optical transmitter;

a photo diode circuit including a photo diode that converts the RF modulated optical signal to a RF electronic signal, the photo diode having an optical modulation voltage,

an optical modulation voltage circuit to control the optical modulation voltage and provide a first attenuation feedback signal depending on the optical modulation voltage;

an attenuation circuit to provide an attenuated RF signal based on the RF electronic signal; and

a feedback attenuation circuit to control the attenuation of the attenuation circuit depending on the first attenuation feedback signal depending on the optical modulation voltage.